Maxxam Analytics Inc

SUBMISSION CASE NARRATIVE
NDMA

MAXXAM L.I.M.S. No. A205667

PROJECT: Applied P & Ch Laboratory NDMA Analysis

I. Receipt

Sample was received at Maxxam on February 26, 2002.
Sample was received in good condition.

II. Holding Times

A. Sample preparation: all holding times were met.
B. Sample analysis: all holding times were met.

III. Method

The method followed was Maxxam's in-house method for NDMA analysis, Entitled "EXTRACTION & ANALYSIS OF NITROSAMINES AND NDMA BY HRMS" SOP # TO.1021.04.

IV. Preparation

Sample preparation proceeded normally. Sample was extracted on February 26, 2002.

V. Analysis

Analysis proceeded normally. Sample was analyzed on February 28, 2002.

A. Calibration: All criteria were met.

B. Mass Resolution: All criteria met.

50 Bathurst Drive, Unit 12, Waterloo, Ontario, Canada N2V 2C5 Tel: (519) 747-2575 Toll free (866) 747-8749 Fax: (519) 747-3806 Website: www.maxxam.ca

Maxxam Analytics Inc

C. Method Blank: All acceptance criteria were met for method blank.

D. Laboratory Control Spike: A LCS and LCSDUP were analyzed and they had a RPD of 14 %.

E. Matrix spike/Matrix spike duplicate: MS and MSD were analyzed not analyzed with this sample.

F. Surrogate Standards: All samples and QC samples met surrogate Standard criteria

G. Samples: Sample analysis proceeded normally.

H. Glass blank: All acceptance criteria for the glass blank were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Maxxam Analytics Inc., both technically and for completeness, except for any conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the HRMS Strategic Business Unit Operational Manager, as verified by the following signature.

AnnMarie Wright, B.Sc.
Laboratory Operations Manager

SUMMARY OF SAMPLES SUBMITTED-NDMA						
(YYYY/MM/DD)						
SOTA SAMPLE NO.	*MAXXAM L.I.M.S. ID*	*DATE SAMPLED*	*DATE RECEIVED*	*DATE EXTRACTED*	*DATE ANALYZED*	*ASSOCIATED QC LABEL*
MW-7	A205667-724457	2002/02/22	2002/02/26	2002/02/26	2002/02/28	20020226

Glossary of Definitions

NDMA	N-Nitrosodimethylamine
OPR	Ongoing Performance & Recovery Standard (Matrix spike)
PAR	Performance & Recovery Standard (Spiking Mixture)
IPR	Initial Performance & Recovery Standard (Matrix spike)
K-D	Kuderna-Danish concentrator; a device used to concentrate the analytes in a solvent
LIMS	Laboratory Information Management System
MISA	Municipal Industrial Strategy for Abatement
EPA	see USEPA
USEPA	United States Environmental Protection Agency
CEPA	Canadian Environmental Protection Agency

amp	ampere
cm	centimetre
g	gram
h	hour
ID	internal diameter
OD	outside diameter
In.	inch
L	litre
M	Molecular ion
min	minute
mL	mililitre
mm	millimetre
m/z	mass-to-charge ratio
N	Normal; gram molecular weight of solute divided by hydrogen equivalent of solute, per litre of solution
mg	milligram 10^{-3}g
µg	microgram 10^{-6}g
ng	nanogram 10^{-9}g
pg	picogram 10^{-12}g
fg	femtogram 10^{-15}g
ppm	parts per million (mg/L, mg/kg)
ppb	parts per billion (µg/L, µg/kg)
ppt	parts per trillion (ng/L, ng/kg)
ppq	parts per quadrillion (pg/L, pg/kg)
v/v	volume per unit volume
w/v	weight per unit volume
DCM	Dichloromethane (Methylene Chloride)
PFK	Perfluorokerosene
HIRES	High Resolution
GC	Gas Chromatography

MS	Mass Spectrometry
HRMS	High Resolution Mass Spectrometry

Acceptance Criteria
: Values used by the laboratory in order to determine that a process is in control.

Accuracy
: It is the degree of agreement of a measured value with the true or expected value of the quantity of concern.

Analyte
: A Nitrosodimethylamine and/or 1,4-Dioxane parameter tested by a method.

Blind Sample
: It is a sample submitted for analysis whose composition is known to the submitter but unknown to the analyst. A blind sample is used to test the proficiency of a measurement process.

Calibration Standard (CAL)
: Consist of a set of solutions containing known amounts of native & carbon-13-labelled NDMA and/or 1,4-Dioxane. These solutions are used to establish the relationship between the parameter's concentration & MS detector response over the expected range of sample concentration.

Calibration Verification Material
: Consists of a calibration standard solution of intermediate level concentration (e.g. CS3), used to assess whether the initial calibration is still valid.

Certified Reference Material
: It is a stable, homogenous, and well characterized reference material, one or more of whose property values are certified by repetitive analysis by several operators & different methodologies in one or more qualified laboratories of known precision & accuracy. This material is used to assess the accuracy of a measurement process.

CAS#
: Chemical Abstracts Compound Registry Number.

Control Sample
: It is a reference material of known composition that is analyzed concurrently with test samples to evaluate the accuracy and/or precision of a measurement process.

EDL
: Estimated detection limit or detection limit.

Glassware Proof Rinse

It is the composite final solvent rinse of each piece of glassware intended for use in processing a batch of samples. Proof rinse samples are analyzed before sample processing begins.

Instrument Detection Limit

It is the smallest concentration/amount of analyte, in a solution containing only the analyte(s) of interest, which produces an instrumental response that satisfies all analyte detection & identification criteria.

IS — Internal Standard, a deuterated or ^{13}C-labelled analyte that is added to a sample extract prior to instrument analysis.

Isomer — A member of a group of compounds that differ from each other only in terms of locations of a specified number of common substituent atoms, or groups of atoms, on the parent compound.

Method Blank — Laboratory control sample using reagents, purified water, soil or relevant matrix known to be free of contaminants.

Method Detection Limit (MDL)

It is the smallest test sample concentration/amount of analyte that produces an instrumental response that satisfies all analyte detection & identification criteria when the sample is processed & analyzed according to the requirements of a specific test method. Reported MDL values reflect the composite effect of sample-related variables as well as method-related variables.

MSDS — Material Safety Data Sheet

NIOSH — National Institute of Occupational Safety & Health

Precision — It is the degree of agreement between the data generated from repetitive measurements under specified conditions. It is generally reported as the standard deviation (SD) or relative standard deviation (RSD).

%D — Percent Difference.

Quality Assurance (QA)

It is a system of activities whose purpose is to provide the producer or user of a product with the assurance that the product meets a defined standard of quality. The system consists of two separate but related activities, quality control & quality assessment.

Quality Control (QC)

It is the overall system of activities whose purpose is to control the quality of a product so that it meets the needs of users.

Recovery Standards

They are selected compounds that are added to sample extracts immediately before instrumental analysis so that surrogate (internal standard) recoveries can be calculated.

RPD (%) Relative Percent Difference.

Relative Retention Factor (RRF)

It is the quotient of a target analyte response factor (instrument response per unit weight) divided by the response factor (RF) for its corresponding labelled surrogate. An RRF value remains constant over the range of concentration for which instrument response is linear.

RSD Relative Standard Deviation.

SDS Soxhlet/Dean-Stark extractor, an extraction device applied to the extraction of solid & semi-solid materials.

Spiked blank Laboratory control sample that has been fortified with native analytes of interest.

Stock Solution A solution containing an analyte that is prepared using a reference material traceable to EPA, the National Institute of Science & Technology (NIST), or a source that will attest to the purity & authenticity of the reference material.

Surrogate A compound whose composition and chemical properties are nearly identical to those of target analytes, but which is distinguishable from target analytes by some means of detection (i.e. MS). These include deuterated or ^{13}C-labelled analogues of the target analytes, which are added to the sample prior to extraction or clean-up steps.

Window Defining Mixture

It is a solution containing the earliest & latest eluting congeners within each homologous group of target analytes on a specified GC column.

SAMPLE DATA

MW-7

Lab Name	Maxxam Analytics Inc.				
Matrix (soil/water):	water			Lab Sample ID:	A205667-724457
Sample wt/vol:	990	(g/mL)	mL	Project Name:	JPL
				Lab File ID:	KR1258
Level (low/med)	low			Date Received:	February 26, 2002
% Moisture	Not applicable	Decanted (Y/N):	N	Date Extracted:	February 26, 2002
Concentrated Extract Volume	1000	(uL)		Lab Batch:	20020226
Injection Volume	2	(uL)		Date Analyzed:	February 28, 2002
				Calib. Ref.:	20020226
Acid Wash Cleanup (Y/N):	N	pH	Not analyzed	Time Analyzed:	14:45
				Dilution Factor:	1

CAS No.	Compound	Conc. (ug/L)	Qualifier	EDL (ug/L)	RL (ug/L)
62-75-9	NDMA	0.00112	J	0.000390	0.00200
	Surrogate	Recovery (%)	Acceptance Criteria (%)		
76523-40-5	D6-NDMA	11	10-85		

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-021531
Collected by:
Collected on: 01/29-02/06/

Received: 01/29/02
Extracted: N/A
Tested: N/A
Reported: 03/08/02

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-13 02-01531-1	MW-1 02-01531-2	MW-5 02-01531-3	MW-6 02-01531-4
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-8 02-01531-5	MW-9 02-01531-6	MW-10 02-01531-7	MW-13 02-01531-8
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-15 02-01531-9	MW-16 02-01531-10	MW-4-1 02-01531-11	MW-4-2 02-01531-12
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-3 02-01531-13	MW-4-4 02-01531-14	MW-4-5 02-01531-15
CHROMIUM [a]						
LEAD [a]						

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-3D 02-01531-16	MW-15D 02-01531-17	MW-16D 02-01531-18
CHROMIUM [a]						
LEAD [a]						

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

[a] Subcontracted to Advanced Technology Laboratories Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-021370
Collected by:
Collected on: 01/24-28/02

Received: 01/24/02
Extracted: N/A
Tested: N/A
Reported: 03/08/02

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-10 02-01370-1	ER-11 02-01370-2	ER-12 02-01370-3	MW-11-1 02-01370-4
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-2 02-01370-5	MW-11-3 02-01370-6	MW-11-4 02-01370-7	MW-11-5 02-01370-8
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-1 02-01370-9	MW-24-1 02-01370-10	MW-24-2 02-01370-11	MW-22-2 02-01370-12
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 02-01370-13	MW-24-3 02-01370-14	MW-24-4 02-01370-15	MW-22-4 02-01370-16
CHROMIUM [a]							
LEAD [a]							

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-5 02-01370-17	MW-24-5 02-01370-18	MW-24-5D 02-01370-19
CHROMIUM [a]						
LEAD [a]						

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

† All results are reported on dry basis for soil samples.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

[a] Subcontracted to Advanced Technology Laboratories Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-021334
Collected by: MES/JNT
Collected on: 01/18-23/02

Received: 01/18/02
Extracted: N/A
Tested: N/A
Reported: 03/08/02

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-7 02-01334-1	ER-8 02-01334-2	ER-9 02-01334-3	MW-12-1 02-01334-4
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-2 02-01334-5	MW-12-3 02-01334-6	MW-12-4 02-01334-7	MW-12-5 02-01334-8
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-2D 02-01334-9	MW-14-1 02-01334-10	MW-14-2 02-01334-11	MW-14-3 02-01334-12
CHROMIUM [a]							
LEAD [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-4 02-01334-13	MW-14-5 02-01334-14	MW-23-1 02-01334-15	MW-23-2 02-01334-16
CHROMIUM [a]							
LEAD [a]							

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 02-01334-17	MW-23-4 02-01334-18	MW-23-5 02-01334-19	MW-23-3D 02-01334-20
CHROMIUM [a]							
LEAD [a]							

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

[a] Subcontracted to Advanced Technology Laboratories Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

APCL Project: JPL

ATL #: 055394-001A-057A

APCL #: 1334-1/20, 1370-1/19, and 1531-1/18

001

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Table of Contents:

ATL #: 055394-001A-057A
APCL #: 1334-1/20, 1370-1/19, 1531-1/18

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Case Narrative

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 055394-001A / 057A
Date Received: 02/13/02

Advanced Technology Laboratories received 57 water sample(s) (including field samples) for sample analysis. All receiving information is located on the Chain-of-Custody, which has been included in the data package.

Table's 1a/1b describe in detail the individual sample information. Table 2 describes some important information associated with the sample batch.

Table 1a: Sample Description

Lab Sample ID	Client Sample ID	Sample Description	Matrix
055394-001A	MW-14-5	1334-14	Water
055394-002A	MW-14-4	1334-13	Water
055394-003A	ER-7 (Equip. Rinsate)	1334-1	Water
055394-004A	MW-14-3	1334-12	Water
055394-005A	MW-14-2	1334-11	Water
055394-006A	MW-14-1	1334-10	Water
055394-007A	MW-12-5	1334-8	Water
055394-008A	MW-12-4	1334-7	Water
055394-009A	ER-8	1334-2	Water
055394-010A	MW-12-3	1334-6	Water
055394-011A	MW-12-2	1334-5	Water
055394-012A	MW-12-2D	1334-9	Water
055394-013A	MW-12-1	1334-4	Water
055394-014A	MW-23-5	1334-19	Water
055394-015A	MW-23-4	1334-18	Water
055394-016A	MW-23-3	1334-17	Water
055394-017A	MW-23-3D	1334-20	Water
055394-018A	ER-9	1334-3	Water
055394-019A	MW-23-2	1334-16	Water
055394-020A	MW-23-1	1334-15	Water
055394-021A	MW-24-5	1370-18	Water
055394-022A	MW-24-5D	1370-19	Water
055394-023A	MW-24-4	1370-15	Water
055394-024A	ER-10	1370-1	Water
055394-025A	MW-24-3	1370-14	Water
055394-026A	MW-24-2	1370-11	Water
055394-027A	MW-24-1	1370-10	Water

003

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Table 1b: Sample Description

Lab Sample ID	Client Sample ID	Sample Description	Matrix
055394-028A	MW-11-5	1370-8	Water
055394-029A	MW-11-4	1370-7	Water
055394-030A	MW-11-3	1370-6	Water
055394-031A	MW-11-2	1370-5	Water
055394-032A	MW-11-1	1370-4	Water
055394-033A	ER-11	1370-2	Water
055394-034A	MW-22-5	1370-17	Water
055394-035A	MW-22-4	1370-16	Water
055394-036A	MW-22-3	1370-13	Water
055394-037A	MW-22-2	1370-12	Water
055394-038A	MW-22-1	1370-9	Water
055394-039A	ER-12	1370-3	Water
055394-040A	MW-13	1531-8	Water
055394-041A	MW-16	1531-10	Water
055394-042A	MW-16D	1531-18	Water
055394-043A	MW-5	1531-3	Water
055394-044A	MW-10	1531-7	Water
055394-045A	MW-6	1531-4	Water
055394-046A	MW-15	1531-9	Water
055394-047A	MW-15D	1531-17	Water
055394-048A	MW-1	1531-2	Water
055394-049A	MW-9	1531-6	Water
055394-050A	MW-4-5	1531-15	Water
055394-051A	MW-4-4	1531-14	Water
055394-052A	MW-4-3	1531-13	Water
055394-053A	NW-4-3D	1531-16	Water
055394-054A	ER-13	1531-1	Water
055394-055A	MW-4-2	1531-12	Water
055394-056A	MW-4-1	1531-11	Water
055394-057A	MW-8	1531-5	Water

Table 2: Sample Batch Information

Test Name	Analysis Method	QC Batch Number	Associated Samples	Analysis Date
ICP_MS Metals	EPA 200.8	R15558	055394-001A/019A, 055394-023A	02/15/02
		R15562	055394-020A/022A 055394-024A/039A 055394-041A	02/15/02
		R15564	055394-040A 055394-042A/057A	02/15/02

ATL samples 055394-001A/057A did not require digestion. The Prep Date on the report is the analytical date of the turbidity check.

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Table 3: QC Anomalies

Item	Cause/Reason
055394-040A	10 times dilution was applied to this sample due to the results were out side the calibration curve and or matrix interference.
055394-045A	20 times dilution was applied to this sample due to the results were out side the calibration curve and or matrix interference.
055394-041A MS/MSD	2 times dilution was applied to this sample due to the results were out side the calibration curve and or matrix interference.

The client requested a Level "D" data package requirement. The QC anomalies, which are listed in Table 3, appear to not have any significant impact on the analytical results. See cause and reasons for each anomaly that is listed in the table.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989-4045 if I can be of further assistance to your company.

Sincerely,

Edgar P. Caballero
Laboratory Director

005

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Data Qualifiers

Data Qualifiers are used in conjunction with the results in order to explain certain anomalies which may have occurred during sample analysis. If a result data qualifier is reported, then an explanation of the occurrence and the effects it has on the results must accompany the report.
The following table describes each data qualifier:

Symbol	Definition
B	This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compounds.
D	Duplicate injection precision not met.
E	The reported value is estimated because of interference.
J	This indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero.
N	This flag indicated presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.
S	Spike sample recovery not within control limits.
SA	The reported value was determined by the Method of Standard Additions (MSA).
U	This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted accordingly.
W	Post Digestion Spike for Furnace AA analysis is out of control limits (85% - 115%), while sample absorbance is less than 50% of spike absorbance.
X	This flag is used for a pesticide/Aroclor target analyte when there is grater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported and flagged with an X.
Y	This flag applies to pesticide results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag.
P	Samples analyzed by ICP
PM	Samples analyzed by ICP_MS
CV	Samples analyzed by Manual Cold Vapor AA
CA	Samples analyzed by Midi-Distillation Spectrophotometer
SP	Samples analyzed by Spectrophotometer
TR	Samples analyzed by Infrared (TRPH)
AA	Samples analyzed by Flame, Atomic Absorption
M	Method Qualifier: Indicates the method by which each analyte is analyzed.
Q	Data Qualifier: Indicates any anomalies occurred during the QC sample analysis.
C	Concentration Qualifier: Indicates any effect on the reported value.
DLR	The DLR takes into account the dilution or concentration of the sample and is numerically defined as the MDL times the dilution or concentration factor. The dilution and concentration factors vary according to aliquot normally taken by the individual laboratory.
NC	Not calculated; at or near detection limit.

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Sample Receiving Items

007

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Sample Receipt Checklist

Client Name APCL | Date and Time Received: 02/13/2002 2:36:08 PM

Work Order Numbe 055394 | Received by: CC

Checklist completed by S Calderon (Signature) 02/13/02 (Date) | Reviewed by: RA (Initials) 2/13/02 (Date)

Cooler Temp (Deg C): 5 | Carrier name: Walk-In

Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐
Custody seals intact on shippping container/cooler?	Yes	☐	No	☐	Not Present	☑
Custody seals intact on sample bottles?	Yes	☐	No	☐	Not Present	☑
Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Samples in proper container/bottle?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		
All samples received within holding time?	Yes	☑	No	☐		
Water - VOA vials have zero headspace?	No VOA vials submitted	☑	Yes	☐	No	☐
Water - pH acceptable upon receipt?	Yes	☑	No	☐	NA	☐ (Soil/Oils/Liquid)

pH >12 for (CN ,S) ; pH <2 for (OG, 418.1 and Metal)

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-001A

Client Sample ID: MW-14-5
Collection Date: 1/18/02 10:37:00 AM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories *3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040*

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-002A

Client Sample ID: MW-14-4
Collection Date: 1/18/02 11:22:00 AM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	5.6	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

015

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	ER-7 (Equip. Rinsate)
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/18/02 11:33:00 AM
Lab ID:	055394-003A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

016

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-004A

Client Sample ID: MW-14-3
Collection Date: 1/18/02 12:08:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

017

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-2
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/18/02 12:45:00 PM
Lab ID:	055394-005A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A**	BatchID: **R15558**		PrepDate:		Analyst: **NS**	
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA 018

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-1
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/18/02 1:33:00 PM
Lab ID:	055394-006A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**				PrepDate:		Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-5
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/22/02 11:22:00 AM
Lab ID:	055394-007A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	1.1	1.0		µg/L	1.0	2/15/02

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-4
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/22/02 12:18:00 PM
Lab ID:	055394-008A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**				PrepDate:		Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA 02/8

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	ER-8
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/22/02 1:11:00 PM
Lab ID:	055394-009A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA 02/9

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-010A

Client Sample ID: MW-12-3
Collection Date: 1/22/02 1:19:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

023

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-2
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/22/02 2:04:00 PM
Lab ID:	055394-011A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**				PrepDate:		Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

024

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-2D
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/22/02 2:30:00 PM
Lab ID:	055394-012A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA 2/25/02

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-013A

Client Sample ID: MW-12-1
Collection Date: 1/22/02 3:26:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-5
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/23/02 10:38:00 AM
Lab ID:	055394-014A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215A** BatchID: **R15558**				PrepDate:		Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

027

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-23-4
Lab Order: 055394
Project: JPL #00HW019
Collection Date: 1/23/02 11:50:00 AM
Lab ID: 055394-015A
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-3
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/23/02 12:50:00 PM
Lab ID:	055394-016A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	5.8	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-3D
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/23/02 12:50:00 PM
Lab ID:	055394-017A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	6.2	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-018A

Client Sample ID: ER-9
Collection Date: 1/23/02 1:06:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**				PrepDate:		Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

081

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-2
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/23/02 2:10:00 PM
Lab ID:	055394-019A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-1
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/23/02 3:02:00 PM
Lab ID:	055394-020A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215B** BatchID: **R15562**				PrepDate:		Analyst: **NS**
Chromium	6.2	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-021A

Client Sample ID: MW-24-5
Collection Date: 1/24/02 10:42:00 AM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215B** BatchID: **R15562**				PrepDate:		Analyst: **NS**
Chromium	5.0	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-022A

Client Sample ID: MW-24-5D
Collection Date: 1/24/02 10:42:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215B** BatchID: **R15562**				PrepDate:		Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 055394
Project: JPL #00HW019
Lab ID: 055394-023A

Client Sample ID: MW-24-4
Collection Date: 1/24/02 12:06:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215A** BatchID: **R15558**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA 2/36

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	ER-10
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/24/02 1:03:00 PM
Lab ID:	055394-024A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215B** BatchID: **R15562**			PrepDate:			Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

037

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-24-3
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/24/02 1:15:00 PM
Lab ID:	055394-025A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				
RunID: **ICP4_020215B** BatchID: **R15562**				PrepDate:		Analyst: **NS**
Chromium	5.9	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/20/02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-24-2
Lab Order:	055394		
Project:	JPL #00HW019	**Collection Date:**	1/24/02 2:03:00 PM
Lab ID:	055394-026A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			
RunID: **ICP4_020215B** BatchID: **R15562**				PrepDate:		Analyst: **NS**
Chromium	ND	5.0		µg/L	1.0	2/15/02
Lead	ND	1.0		µg/L	1.0	2/15/02

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interference.
- H - Samples exceeding analytical holding time
- E - Value above quantitation range
- M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040